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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,986	03/12/2004	Wei-Chun Chin	34068.UT	6879

7590 05/10/2006

Henry Estevez  
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.  
Suite 1401  
255 So. Orange Ave.  
Orlando, FL 32802-3791

EXAMINER

GITOMER, RALPH J

ART UNIT	PAPER NUMBER
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1655

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/798,986

Applicant(s)

CHIN ET AL.

Examiner

Ralph Gitomer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

The preliminary amendment received 6/8/04 has been entered and claims 1-34 are currently pending in this application.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of each of Romet-Haddad and Marano in view of Zhong.

Romet-Haddad (Tracheal Epithelium in Culture) entitled "Tracheal Epithelium in Culture: A Model for Toxicity Testing of Inhaled Molecules" teaches on page 142 under Monolayer Cell Culture, cells were grown in monolayer on Biopore filters with 0.4 micron pore size coated with collagen. On pages 142-143 various assays are disclosed including viability, growth, ciliary beat, transepithelial electric potential difference. Two of the substances tested for toxicity are mechlorethamin and acrolein. Note that acrolein is in cigarette smoke and mechlorethamin is a nitrogen mustard.

Marano (NTIS PB 91110841) entitled Evaluating the Toxicity of Environmental Gas Pollutants on Respiratory Ciliated Epithelia" teaches in the introduction, various animal cells including chicken and hamster may be used. In section I.1 rabbit tracheal epithelium is cultured. Acrolein, parathion, mechlorethamin, paraoxon and caryololysine are applied and ciliary beat frequency, cell viability and proliferation are determined.

The claims differ from the above references in that they specify the support is porous silicone.

Zhong (6,541,107) entitled "Nanoporous Silicone Resins Having Low Dielectric Constants" teaches in the abstract, nanoporous silicone resins and films having low dielectric constants.

It would have been obvious to one of ordinary skill in this art at the time the invention was made to employ porous silicone as a support because each of the primary references recite porous supports and Zhong teaches advantages of porous silicone supports that have low dielectric constants so where electrical measurements

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may be of interest, a stable, not chemically reactive, insulating support would be preferable. No unexpected results or advantages to a porous silicone support are claimed. An undisclosed advantage is given little or no weight.

Regarding the selection of substances that can be tested for in air including "a toxin", "a biological warfare agent" and "a chemical warfare agent", the compounds tested by the primary references would be encompassed by the claims. In view of the method taught by the references, one would expect any type of airborne agent would be detected.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each of the following applies in all occurrences.

In claim 1 line 7, "cell nutrient liquid" lacks definite antecedent basis. In claim 1 line 10, "the porous silicone" lacks antecedent basis. In claim 2 line 2, "primary" is queried. In claim 3 line 1 is not understood. Claim 4 fails to further limit claim 1 from which it depends. In claim 7 line 2, "the pores" lacks definite antecedent basis. In claim 7 last line, "thereinto" is confusing as to what may be intended.

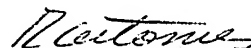
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Blanquart (Toxic in Vitro) teaches tracheal cultures for respiratory toxicity assays. Nadel (6,270,747) entitled "In Vitro and In vivo Assay for Agents Which Treat Mucus Hypersecretion" teaches in column 28 last paragraph bridging to column 29, exposing human pulmonary mucoepidermoid carcinoma cells to cigarette smoke.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ralph Gitomer whose telephone number is (571) 272-0916. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ralph Gitomer  
Primary Examiner  
Art Unit 1655

RALPH GITOMER  
PRIMARY EXAMINER  
GROUP 1200